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10/778,009	02/11/2004	Erik C. Scher	40-001330US	3323

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EXAMINER	
TRINH, THANH TRUC	
ART UNIT	PAPER NUMBER
1795	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/778,009	SCHER ET AL.	
	Examiner	Art Unit	
	THANH-TRUC TRINH	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *104-140 and 286* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *104-140 and 286* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/28/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed application, Application Nos. 10/656802, 60/452038, 60/421353 fail to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application.

.Applications Nos. 10/656802, 60/452038, 60/421353 do not contain subject matter such as "the photoactive layer is substantially free of conductive polymer", and limitations described in claims 139-140.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 104 and 111 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "substantially" in claim 104 is a relative term which renders the claim indefinite. The term "substantially" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

As amended, claim 104 recites limitation "discrete nanostructures". It is unclear what "discrete nanostructures" referring to.

Claim 111 recites limitation "the small molecule dispersed in a nonconductive polymer" in line 2. It is unclear how "a small molecule", or a single molecule, dispersed in a polymer.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 104-113, 115-119, 121-129 are rejected under 35 U.S.C. 102(e) as being anticipated by Sager et al. (US Patent 6239355).

Regarding claim 104, as seen in Figures 1-3, Sager et al. discloses a photovoltaic device comprising a first electrode layer (such as 110 in Figures 1); a second electrode layer (such as 106 in Figure 1) and a first photoactive layer (such as 101 in Figure 1) disposed between the first and second electrode layers, wherein the

photoactive layer comprises a first population of discrete nanostructure (such as 107 in Figure 1 - See col. 1 lines 19-21, col. 8 line 39 through col. 9 line 65) and a second charge transfer layer (such as 109 in Figures 1). Sager et al. teaches the second charge transfer layer includes non-conducting polymer such as polyfluorenes and polyfluorene-based copolymers and blended with charge transporting material such as triphenylamines. Therefore it is the Examiner's position that Sager et al. teaches the photoactive layer comprises a small molecule (triphenylamine) which is other than a dye, and wherein the photoactive layer is substantially free of conductive polymer since polyfluorene is not conductive. (That's why it is needed to blend with charge transporting molecules such as triphenylamine).

Regarding claim 105, Sager et al. teaches both nanostructures and small molecules are charge transfer material (See col. 9 line 36 through col. 10 line 32). Therefore it is the Examiner's position that the nanostructures and the small molecule exhibit a type II band offset energy profile.

Regarding claims 106-108, Sager et al. teaches the small molecule (triphenylamines) is an organic, nonpolymer molecule that conducts holes (See col. 10 line 26-32; and col. 5 lines16-22 of supporting reference to Tutihasi, US Patent 4254199). The molecular weight of triphenylamines ($C_{18}H_{15}N$) is 245.32 which is less than 500.

Regarding claim 109, as seen in Figures 1-3, Sager et al. describe the nanostructures (107) are disposed in the charge transfer material (109), or a matrix

(polyfluorene and triphenylamines) comprising the small molecules (triphenylamines). (See col. 9 line 36 through col. 10 line 32).

Regarding claim 110, as seen in Figures 1-3, Sager et al. describe the photoactive layer comprises at least two sublayers (107 and 109), wherein at least one of the sublayers comprises the nanostructures (107) and at least one of the sublayers (109) comprises the small molecule (such as triphenylamine). (See col. 9 line 36 to col. 10 line 32)

Regarding claim 111, Sager et al. teaches the small molecules (or triphenylamines) are blended with the non-conductive polymer (polyfluorene) (See col. 10 lines 26-32). Therefore it is the Examiner's position that the small molecules are dispersed in a non-conductive polymer.

Regarding claim 113, Sager et al. describes the nanostructures comprise nanocrystals. (See col. 7 lines 26-32, col. 15 line 22 to col. 16 line 40)

Regarding claim 115, Sager et al. describes the nanostructures (107 or 307) comprises a single-crystal nanostructure, a double-crystal nanostructure, or a polycrystalline nanostructure. (See col. 9 lines 42-58)

Regarding claims 116-117, Sager et al. teaches the nanostructures comprise at least a portion that is comprised of a semiconductor selected from Group II-VI semiconductor such as CdS, CdTe, CdSe. (See col. 9 lines 43-58)

Regarding claim 118, as seen in Figures 1-3, Sager et al. describes the photoactive layer (101) is disposed in at least partial electrical contact with the first electrode (110) along a first plane (as in the case template 105 extending all the way to the electrode 110 – See col. 8 lines 25-28) and with the second electrode (106) along the second plane (as layer 104 is optionally disposed between the photoactive layer 101 and the second electrode – See col. 7 lines 34-40)

Regarding claim 119, as seen in Figures 1A and 1D, Sager et al. describe the nanostructures (or first charge transfer material 107) of the first population each has at least one elongated section oriented predominantly normal to at least the first plane. (See col. 15 line 66-col. 16 line 7)

Regarding claim 121, Sager et al. describe an electron blocking layer (104) disposed between the photoactive layer (101) and the second electrode (106). (See col. 7 line 64 to col. 8 line 6)

Regarding claim 122, Sager et al. describe a hole blocking layer (108) disposed between the photoactive layer (101) and the first electrode (110) and an electron blocking layer (104) disposed between the photoactive layer (101) and the second electrode (106). Sager et al. describe layer (108) of metal attaching to electrode 110 (See Figure 1A and col. 8 line 20-25). Therefore it is the Examiner's position that layer 108 conducts electrons and can function as a hole blocking layer.

Regarding claims 123-124, Sager et al. describe the photovoltaic cells are subjected to roll-to-roll process (See col. 7 lines 26-32). Therefore it is the Examiner's position that the first and second and the photoactive layers are flexible.

Regarding claim 125, Sager et al. describe the second electrode (106) comprises a transparent conductive layer. (See col. 7 lines 34-63)

Regarding claim 126, Sager et al. describe the first electrode (110) comprises aluminum. (See col. 7 lines 41-63)

Regarding claims 127-129, Sager et al. describe depositing the first electrode (110) on a substrate such as glass or plastic substrate (See col. 7 lines 55-63). Sager et al. also describe encapsulating the final device. (See col. 13 lines 25-48). Therefore it is the Examiner's position that the photovoltaic layer is hermetically sealed; at least one sealing layer (glass substrate) is included in addition to the first and second electrodes; the device comprises a second sealing layer (encapsulating layer); and the photoactive layer, first and second electrodes are sandwiched between the first and second sealing layers.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claim 114 and 120 rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597) in view of Alivisatos et al. (PGPub 20030226498).

Sager et al. teaches a photovoltaic device as described in claim 104.

Sager et al. do not specifically teaches the nanostructures comprise nanowires.

With respect to claim 114, Alivisatos et al. teach nanostructures comprises nanorods of any length, or nanowires. (See paragraph 0061).

With respect to claim 120, Alivisatos et al. also teach the nanostructures comprise branched nanocrystal having more than one elongated segment. (See paragraphs 0061-0064)

It would have been obvious to one skilled in the art at the time the invention was made to modify the device of Sager et al. by using nanostructures as taught by Alivisatos et al., because Alivisatos teaches that it would improve efficiency. (See paragraph 0073)

6. Claims 130-133 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597)

Sager et al. disclose a photovoltaic device as described in claim 104.

Sager et al. do not specifically teach the overall device comprises a non-architecture, a convex architecture, a coiled architecture. However, Sager et al. teach the device is subjected to a roll-to-roll process (See col. 7 lines 26-32). Therefore it would have been obvious to one skilled in the art at the time the invention was made that the device of Sager et al. is flexible enough to have a non-planar architecture, a convex architecture, and a coiled architecture.

It would certainly have been obvious to one having ordinary skill in the art at the time the invention was made to have the first electrode, the photoactive layer and the second electrode layer oriented in a reciprocating stacked architecture, because there is nothing unobvious about rearranging the photovoltaic device to receive light from the sides, or left and right instead from the top.

7. Claims 134-136 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597) in view of Simmons (US Patent 5720827).

Sager et al. disclose a photovoltaic device as described in claim 104.

Sager et al. do not teach the first population of the nanostructures comprising at least two different nanocrystal subpoulations, wherein each nanocrystal subpopulation has different absorption spectrum, different composition and different size distribution.

With respect to claims 134 and 136, as seen in Figure 2, Simmons teaches a nanostructure population (or photoactive region 20) comprises at least two different nanocrystal subpopulations (22, 26, 28, 30, 32), wherein the subpopulations have different size and each subpopulation has different absorption spectrum. (See col. 5 lines 45-65 and col. 7 line 35 to col. 8 line 15).

With respect to claim 135, as seen in Figure 5, Simmons teaches a nanostructure population (or photoactive region 20) comprises at least two different nanocrystal subpopulation (2aA and 20B), wherein each subpopulation comprises different compositions, or different material. (See col. 13 lines 13-50).

It would have been obvious to one skilled in the art at the time the invention was made to modify the device of Sager et al. by including at least two different nanocrystal subpopulations with different size, composition and absorption spectrums as taught by Simmons, because it would give a photoactive layer that can efficiently absorb the entire range of incident optical radiation. (See col. 8 lines 14-16).

8. Claims 137-138 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597) in view of Salafsky (US Patent 6239355).

Sager et al. disclose a photovoltaic device as described in claim 104.

Sager et al. do not teach a second photoactive layer, a third electrode, a fourth electrode, wherein the second photoactive disposed between the third and fourth electrode.

Salafsky teaches a second photoactive layer (308), a third electrode (306 and 307), a fourth electrode (310 and 312) as seen in Figure 3, wherein the second photoactive layer (308) is disposed in at least partial electrical contact with the third electrode (306 and 307) along a third plane and in at least partial electrical contact with the fourth electrode (310 and 312) along a fourth plane. The second photoactive layer comprises a second population of nanostructures having a different absorption spectrum from the first population of nanostructures (See col. 5 line 57 to col. 6 line 4), and wherein the third and fourth electrodes and the second photoactive layer are attached to the first and second electrodes and the first photoactive layer via an isolation layer 304. (See col. 5 line 26 to col. 6 line 4).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the photovoltaic device of Sager et al. by including a third electrode, a fourth electrode and a second photoactive layer as taught by Salafsky because it would provide a device that is responsive to light in more than one spectral band. (See col. 2 lines 54-60)

9. Claims 139-140 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597) in view of Ono (PGPub 20030013008).

Sager et al. discloses a photovoltaic device as described in claim 104.

Sager et al. does not specifically teach a third electrode layer and a second photoactive layer disposed between the second and third electrodes layers, wherein the second photoactive layer is disposed in at least partial electrical contact with the second electrode and in at least partial electrical contact with the third electrode. Nor does he teach a second photoactive layer, and a first recombination material disposed between the first and second photoactive layers, wherein the first recombination material is in at least partial electrical contact with the first and second photoactive layers.

As seen in Figure 21(d), Ono describes a composite light-receiving device comprising a first and second photoactive layers (710 and electrolyte which can be a conductive polymer – See paragraph 0261 and 0119-0122) disposed on a conductive substrate (700), a third electrode (800), which is also the first recombination material in claim 140, disposed between the first and second photoactive layers. In other words, the second photoactive layer is disposed in at least partial electrical contact with the second electrode and in at least partial electrical contact with the third electrode, or the first recombination material (or electrode 800).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Sager et al. by including a second photoactive and a third electrode (or a first recombination material) as taught by Ono,

because it would provide a device that can response to different types of light. (See paragraphs 0012 or 0216).

It would certainly have been obvious to one skilled in the art that in the combination of Sager et al. and Ono the second photoactive layer is disposed in at least partial electrical contact with the second electrode and in at least partial electrical contact with the third electrode.

10. Claim 286 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sager et al. (US Patent 6946597) in view of Ono (PGPub 20030013008).

As seen in Figures 1-3, Sager et al. discloses a photovoltaic device comprising a first electrode layer (such as 110 in Figures 1); a second electrode layer (such as 106 in Figure 1) and a first photoactive layer (such as 101 in Figure 1) disposed between the first and second electrode layers, wherein the photoactive layer comprises a first population of discrete nanostructure (such as 107 in Figure 1 - See col. 1 lines 19-21, col. 8 line 39 through col. 9 line 65) and a second charge transfer layer (such as 109 in Figures 1). Sager et al. teaches the second charge transfer layer includes non-conducting polymer such as polyfluorenes and polyfluorene-based copolymers and blended with charge transporting material such as triphenylamines. Therefore it is the Examiner's position that Sager et al. teaches the photoactive layer comprises a small molecule (triphenylamine) which is other than a dye, and wherein the photoactive layer

is substantially free of conductive polymer since polyfluorene is not conductive. (That's why it is needed to blend with charge transporting molecules such as triphenylamine).

Sager et al. does not specifically teach a second photoactive layer, and a first recombination material disposed between the first and second photoactive layers, wherein the first recombination material is in at least partial electrical contact with the first and second photoactive layers.

As seen in Figure 21(d), Ono describes a composite light-receiving device comprising a first and second photoactive layers (710 and electrolyte which can be a conductive polymer – See paragraph 0216 and 0119-0122) disposed on a conductive substrate (700), a first recombination material (800) disposed between the first and second photoactive layers wherein the first combination material (800) is in at least partial electrical contact with the first and second photoactive layers (710)

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Sager et al. by including a second photoactive and a first recombination material as taught by Ono, because it would provide a device that can response to different types of light. (See paragraphs 0012 or 0216).

It would certainly have been obvious to one skilled in the art that in the combination of Sager et al. and Ono the second photoactive layer is disposed in at least partial electrical contact with the second electrode and in at least partial electrical contact with the third electrode.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

11. Claims 104 – 111, 113-140 and 286 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-83 of U.S. Patent No. 6878871 in view of Sager et al. (US Patent 6946597). The subject matters in claims of Patent No. 6878871 are substantially the same as that of the instant claims, except for the matter that the photoactive layer comprises "a small molecule, which is other than a dye, and wherein the photoactive layer is substantially free of conductive polymer." Sager et al. teaches a photoactive layer comprises a small molecule (triphenylamine) blended with a non-conductive polymer (See col. 10 lines 26-32). It would have been obvious to one having ordinary skill in the art at the time the invention

was made to modify the photovoltaic device of Patent No. 6878871 by using the small molecules (triphenylamine) blended with non-conductive polymer as taught by Sager et al. as the polymer matrix in Patent No. 6878871, because Sager et al. teaches that it would be another way to form a hole-transporting layer. (See col. 9 line 66 to col. 10 line 32).

12. Claims 104-111, 113-140 and 286 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-24 of U. S. Patent No. 7087832 in view of Sager et al. (US Patent 6946597). The subject matters in claims of Patent No. 6878871 are substantially the same as that of the instant claims, except for the matter that the photoactive layer comprises "a small molecule, which is other than a dye, and wherein the photoactive layer is substantially free of conductive polymer." Sager et al. teaches a photoactive layer comprises a small molecule (triphenylamine) blended with a non-conductive polymer (See col. 10 lines 26-32). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the photovoltaic device of Patent No. 7087832 by using the small molecules (triphenylamine) blended with non-conductive polymer as taught by Sager et al. as the polymer matrix in Patent No. 7087832, because Sager et al. teaches that it would be another way to form a hole-transporting layer. (See col. 9 line 66 to col. 10 line 32).

Response to Arguments

Applicant's arguments with respect to claims 104-140 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Ono does not teach a first recombination material disposed between and in at least partial electrical contact with the first and the second photoactive layers. Applicant also argues that "the electrode of Ono transports charge carriers, in contrast to a recombination material of the instant invention within which holes and electrons recombine rather than being transported through the material". However, the arguments are not deemed to be persuasive. As seen in Figure 21(d), Ono teaches that the photoactive layers (710 and polymer electrolyte – the space between layer 710 and electrode 800) have a common electrode (800), wherein the electrolyte functions as to transport holes generated by the dye (See paragraphs 0057 and 0009) to the counter electrode (or 800 in this case) which also supplies electrons to the dye-holes to stabilize the charge separation state (See paragraph 0043). Therefore, the common electrode (800) is actually a recombination material where the electrons and the holes recombine to stabilize the charge separation state in order to maintain the flow of electrical current.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Truc Trinh whose telephone number is 571-272-6594. The examiner can normally be reached on 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TT
4/16/2008

/PATRICK RYAN/
Supervisory Patent Examiner, Art Unit 1795